

## Education

- 2014 - present     **Health and Society Scholar**  
Robert Wood Johnson Foundation  
University of California, San Francisco  
University of California, Berkeley  
Advisors: Jennifer Ahern, Maria Glymour, Mark van der Laan
- 2014     **Postdoctoral Fellow**  
Department of Mental Health  
Johns Hopkins School of Public Health, Baltimore, MD  
Drug Dependence and Epidemiology  
Advisor: Elizabeth Stuart
- 2010-2014     **Ph.D. Epidemiology**  
Johns Hopkins University, Bloomberg School of Public Health  
Concentration in Methods  
Advisor: Thomas Glass  
Thesis: Mental health in context: effect heterogeneity and mechanism in the relationship between neighborhood disadvantage and adolescent depression and anxiety.
- 2012-2013     **M.H.S. Biostatistics**  
Johns Hopkins University, Bloomberg School of Public Health  
Advisor: Elizabeth Stuart  
Thesis: Implementation of methods to estimate population marginal treatment effects in the presence of non-randomized treatment assignment and informative selection from a population-based sample.
- 2007-2008     **M.P.H.**  
Johns Hopkins University, Bloomberg School of Public Health  
Capstone: Evaluation design for a study using community health workers to improve breastfeeding rates among adolescent African American women in East Baltimore.
- 2006     Graduate course in biostatistics  
University of Pennsylvania
- 2001-2005     **B.S. Biochemistry**  
University of Michigan  
Highest honors  
Thesis: Actin-regulatory proteins  $p116^{RIP}$  and  $LIMK2$  interact with POSH.

## Awards

2014-2016	Robert Wood Johnson Foundation Health and Society Scholar
2014	Student Paper Award—American Statistical Association, Social Statistics/Government/ Survey Research Methods Sections
2012-2014	Sommer Scholar—Johns Hopkins School of Public Health
2010-2012	Intramural Research Training Award Fellow—National Institute of Mental Health
2008	Delta Omega Honor Society—Johns Hopkins School of Public Health
2003-2005	James B. Angell Scholar—University of Michigan
2001-2005	University Honors—University of Michigan

## Publications

### Published

1. Rudolph, K. E. *et al.* Job strain and the cortisol diurnal cycle in the Multi Ethnic Study of Atherosclerosis: accounting for between- and within-day variability. *American Journal of Epidemiology*, In press (2015).
2. Rudolph, K. E. & Eaton, W. W. Previous anxiety and depression as risk factors for early labor force exit. *Journal of Epidemiology and Community Health*, In press (2015).
3. Rudolph, K. E., Stuart, E. A., Vernick, J. S. & Webster, D. W. Association between Connecticut's permit-to-purchase handgun law and homicides. *American Journal of Public Health* **105**, e49–54 (2015).
4. Paksarian, D., Rudolph, K. E., He, J. P. & Merikangas, K. R. School start time and adolescent sleep patterns: Results from the U.S. National Comorbidity Survey Adolescent Supplement. *American Journal of Public Health* **105**, 1351–1357 (2015).
5. Webb-Vargas, Y., Rudolph, K. E., Lenis, D., Murakami, P. & Stuart, E. A. An imputation-based solution to using mismeasured covariates in propensity score analysis. *Statistical Methods in Medical Research*, In press (2015).
6. Hadley, B., Rudolph, K. E., Mogul, M. & Perry, D. F. Providing home visiting to high-risk pregnant and postpartum families: the development and evaluation of the MOMobile program. *Zero to Three* **35**, 40–48 (2014).
7. Rudolph, K. E., Diaz, I., Rosenblum, M. & Stuart, E. A. Estimating population treatment effects from a survey sub-sample. *American Journal of Epidemiology* **180**, 737–748 (2014).
8. Rudolph, K. E., Stuart, E. A., Glass, T. A. & Merikangas, K. R. Neighborhood disadvantage in context: the influence of urbanicity on the association between neighborhood disadvantage and adolescent emotional disorders. *Social Psychiatry and Psychiatric Epidemiology* **49**, 467–475 (2014).
9. Rudolph, K. E. *et al.* The association between cortisol and neighborhood disadvantage in a US population-based sample of adolescents. *Health & Place* **25**, 68–77 (2014).

10. Rudolph, K. E., Lessler, J., Moloney, R. M., Kmush, B. & Cummings, D. A. Incubation Periods of Mosquito-Borne Viral Infections: A Systematic Review. *The American Journal of Tropical Medicine and Hygiene* **90**, 882–891 (2014).
11. Rudolph, K. E., Glass, T. A., Crum, R. M. & Schwartz, B. S. Neighborhood psychosocial hazards and binge drinking among late middle-aged adults. *Journal of Urban Health* **90**, 970–982 (2013).
12. Lee, R. M. *et al.* Incubation periods of viral gastroenteritis: a systematic review. *BMC Infectious Diseases* **13**, 446 (2013).
13. Azman, A. S., Rudolph, K. E., Cummings, D. A. & Lessler, J. The incubation period of cholera: A systematic review. *Journal of Infection* **66**, 432–438 (2013).

### **Under Review**

1. Rudolph KE, van der Laan MJ. Double robust estimation of encouragement-design intervention effects transported across sites.
2. Rudolph KE, Colson KE, Stuart EA, Ahern J. Optimally combining propensity score subclasses.
3. Glymour MM, Rudolph KE. Causal inference challenges in social epidemiology: bias, specificity, and imagination.
4. Colson KE, Rudolph KE, Zimmerman SC, Goin DE, Stuart EA, van der Laan M, Ahern J. Optimizing matching and analysis combinations for estimating causal effects.
5. Hong H, Rudolph KE, Stuart EA. Bayesian approach for addressing covariate measurement error in propensity score methods.
6. Casey JA, James P, Rudolph KE, Wu CD, Schwartz BS. Greenness and birth outcomes in a range of Pennsylvania communities
7. Torres JM, Alcantara C, Rudolph KE, Viruell-Fuentes, EA. Cross-border ties as sources of risk and resilience: Do cross-border ties moderate the relationship between immigration-related stress and psychological distress for Latino migrants in the US?

## Presentations and Posters

- 2016 Rudolph KE, van der Laan MJ. What works in Boston may not work in Los Angeles: a double robust transportability estimator for understanding site differences in policy interventions. Oral presentation at the Joint Statistical Meetings, Chicago, IL.
- 2015 Rudolph KE, van der Laan MJ. Transportability in Encouragement-Design Interventions. Oral presentation at the Robert Wood Johnson Foundation Health & Society Scholars Conference, Chapel Hill, NC.
- 2015 Rudolph KE, van der Laan MJ. Transportability in Encouragement-Design Interventions. Poster at the Society for Prevention Research Conference, Washington, DC.
- 2015 Rudolph KE, Sanchez BN, Stuart EA, Greenberg B, Fujishiro K, Wand GS, Shrager S, Seeman T, Diez Roux AV, Golden SH. Association between job strain and aspects of the cortisol diurnal cycle: the Multi-Ethnic Study of Atherosclerosis. Poster at the Society for Epidemiologic Research Conference, Denver, CO.
- 2015 Ahern J, Zimmerman S, Colson KE, Rudolph KE, Goin D. Web-based simulation application to optimize design and analysis decisions for studies of the health impacts of policies and programs. Poster at the Society for Epidemiologic Research Conference, Denver, CO.
- 2015 Ahern J, Colson KE, Rudolph KE, Zimmerman S, Goin D. Does maximizing covariate balance achieve the best estimate? Comparative performance of matching methods for estimating treatment effects. Oral presentation as part of a Concurrent Contributed Session at the Society for Epidemiologic Research Conference, Denver, CO.
- 2014 Rudolph KE, Diaz I, Rosenblum M, Stuart EA. Estimating population treatment effects from a survey sub-sample. Oral presentation as part of topic-contributed session Fresh Perspectives in Causal Inference II at the Joint Statistical Meetings, Boston, MA.
- 2014 Stuart EA, Rudolph KE. Bayesian approaches for handling differential covariate measurement error in propensity score methods. Oral presentation at the International Biometric Conference, Florence, Italy.
- 2014 Paksarian D, Rudolph KE, He JP, Zhang C, Merikangas KR. School start time and sleep patterns among U.S. adolescents: Results from the National Comorbidity Survey Adolescent Supplement. Poster at the Society for Epidemiological Research Conference, Seattle, WA.
- 2013 Rudolph KE, Wand GS, Stuart EA, Glass TA, Marques AH, Duncko R, Merikangas KR. The association between cortisol characteristics and neighborhood disadvantage in a population-based sample of U.S. adolescents. Poster at the Society for Epidemiologic Research Conference, Boston, MA.
- 2012 Georgiades K, Rudolph KE, Kyu H, He J, Bustein M, Merikangas KR. Variation in lifetime prevalence of *DSM-IV* mental disorders and mental health service use among adolescents from immigrant and racial-ethnic backgrounds. Poster at the Summit on the Science of Eliminating Health Disparities, Bethesda, MD.
- 2012 Rudolph KE, Stuart EA, Glass TA, Merikangas, KR. Using propensity score subclassification to examine the association between neighborhood disadvantage and adolescent mental health. Poster at the Society for Epidemiologic Research Conference, Minneapolis, MN.
- 2012 Rudolph KE, Glass TA, Schwartz BS. Neighborhood psychosocial hazards and binge drinking among older adults. Poster at the Society for Epidemiologic Research Conference, Minneapolis, MN.

- 2012 Azman AS, Rudolph KE, Cummings DAT, Lessler J. The incubation period of cholera: a pooled parametric survival analysis of doubly interval censored data. Poster at the Society for Epidemiologic Research Conference, Minneapolis, MN.
- 2010 Rudolph K, Gabor V, Morgan R. Environmental supports and barriers to physical activity in D.C. childcare centers. Oral presentation at the Annual American Public Health Association Conference, Denver, CO.

### Invited Talks

- 2015 What works in Boston may not work in Los Angeles: Understanding site differences and generalizing effects from one site to another, University of California, Berkeley School of Education, the Berkeley Evaluation and Assessment Research Center, Berkeley, CA.
- 2015 Applying Targeted Maximum Likelihood Estimation, University of California, San Francisco, Doctoral Seminar in Epidemiology and Biostatistics, San Francisco, CA.
- 2015 Instrumental Variables, University of California, Berkeley School of Public Health, Advanced Epidemiology Seminar, Berkeley, CA.
- 2014 Neighborhood Disadvantage and Cortisol, Drexel School of Public Health, Department of Epidemiology and Biostatistics, Philadelphia, PA.

### Selected Press

The following articles were associated with:

Rudolph KE, Stuart EA, Vernick JS, Webster DW. Association between Connecticut's permit-to-purchase handgun law and homicides. *Am J Public Health*. 2015; 105(8):e49-54.

- The Washington Post: <http://www.washingtonpost.com/blogs/govbeat/wp/2015/06/12/gun-killings-fell-by-40-percent-after-connecticut-passed-this-law/>
- The New Yorker: <http://www.newyorker.com/news/daily-comment/an-honest-comedian-on-guns?intcid=mod-latest>
- CNN: <http://www.cnn.com/2015/06/12/us/gun-law-homicide-drop/>
- Newsweek: <http://www.newsweek.com/handgun-law-connecticut-helped-decrease-gun-homicides-342363>
- U.S. News and World Report: <http://health.usnews.com/health-news/articles/2015/06/11/tough-handgun-law-linked-to-lower-gun-related-murder-rate-in-connecticut>
- Reddit's front page: [http://www.reddit.com/r/science/comments/39pazx/connecticuts\\_permit\\_to\\_purchase\\_law\\_in\\_effect\\_for/](http://www.reddit.com/r/science/comments/39pazx/connecticuts_permit_to_purchase_law_in_effect_for/)
- The Baltimore Sun: <http://www.baltimoresun.com/news/opinion/readersrespond/bs-ed-handgun-licensing-20150611-story.html> and <http://www.baltimoresun.com/news/maryland/politics/blog/bs-md-van-hollen-gun-20150611-story.html>
- San Francisco Chronicle: <http://www.sfgate.com/news/article/Connecticut-gun-permit-law-prompts-federal-6321880.php>

- Philadelphia Inquirer: <http://www.philly.com/philly/blogs/attytood/And-then-theres-guns.html>
- WNPR: <http://wnpr.org/post/new-analysis-attempts-quantify-impact-handgun-regulations-state#stream/0>

## Professional Experience

### Research

- |                   |   |
|-------------------|---|
| 09/2014 - present | <b>Health and Society Scholar</b><br>Robert Wood Johnson Foundation<br>University of California, San Francisco<br>University of California, Berkeley  |
| 02/2014-08/2014   | <b>Postdoctoral Fellow</b><br>Department of Mental Health<br>Johns Hopkins School of Public Health, Baltimore, MD<br>Drug Dependence and Epidemiology Training Program<br>Advised by Dr. Elizabeth Stuart   |
| 04/2013-08/2014   | <b>Statistical Consultant</b><br>Georgetown University, Washington, DC<br>Center for Child and Human Development<br>Partners for a Healthy Baby Evaluation  |
| 09/2012-01/2013   | <b>Graduate research assistant</b> to Dr. Elizabeth Stuart<br>Department of Mental Health<br>Johns Hopkins School of Public Health, Baltimore, MD<br>Developed conference material on statistical methods for missing data, developed material for Causal Inference course. |
| 12/2010-06/2013   | <b>Graduate research assistant</b> to Drs. Derek Cummings and Justin Lessler<br>Department of Epidemiology<br>Johns Hopkins School of Public Health, Baltimore, MD<br>Performed systematic reviews of the incubation periods of multiple viruses.                           |

## Teaching Experience

2013	Teaching assistant - Spatial Analysis and GIS I Department of Biostatistics Johns Hopkins School of Public Health, Baltimore, MD
2013	Teaching assistant - Spatial Analysis and GIS II Department of Biostatistics Johns Hopkins School of Public Health, Baltimore, MD
2011-2013	Teaching assistant - Fundamentals of Epidemiology and Biostatistics Department of Epidemiology Johns Hopkins School of Public Health, Baltimore, MD
2012	Teaching assistant - Methodological Challenges in Epidemiological Research Department of Epidemiology Johns Hopkins School of Public Health, Baltimore, MD
2012	Teaching assistant - Doctoral Seminar in Epidemiology Department of Epidemiology Johns Hopkins School of Public Health, Baltimore, MD

**Non-Academic**

09/2010-12/2010

**Consultant**

Altarum Institute, Washington, DC

Designed program evaluations for the State of Michigan's Communities Putting Prevention to Work grant programs.

Conducted quantitative data analysis for several CDC-funded projects, including ACHIEVE and the State of Michigan's School Nutrition Standards grant program.

06/2008-08/2010

**Policy Associate**

Altarum Institute, Washington, DC

Project Management: Managed program evaluation projects contracted by the Health Resources and Services Administration (HRSA) of HHS.

Evaluation Design: Designed program evaluations for the Maternal and Child Health Bureaus Early Childhood Comprehensive Systems Initiative, Texas' Medicaid case management program, HRSA's Bureau of Health Professions' minority health professions grant program, and Michigan's Building Healthy Communities grant program.

Qualitative data analysis: Analyzed data obtained from focus groups, in-depth interviews, and data abstraction using NVivo qualitative analysis software.

Quantitative data analysis: Led teams in analysis of primary and secondary data using STATA and SAS statistical software.

Report writing: Co-authored several reports to HHS' Office of Women's Health, HRSA's Bureau of Health Professions and Bureau of Healthcare Systems, and the Maternal and Child Health Bureau.

08/2007-01/2008

**Intern**

Howard County Health Department, Columbia, MD

Developed policies for health care access program to provide affordable, comprehensive health care coverage for all Howard County residents.

01/2008

**Field Worker**

Johns Hopkins Center for American Indian Health, Albuquerque, NM

Field work as a Family Health Liaison for a teen mother health behavior intervention on Navajo and Apache reservations.

06/2005-06/2007

**Staff Scientist**

Merck & Co. Inc., West Point, PA

Supported demonstration and licensing of Varicella manufacturing facility.

Provided technical and biological support for Varicella processing.

Project and People Management: Led project to re-design sterility testing.



## Professional Activities

### Reviewer

2015	Social Science & Medicine
2015	Journal of Clinical Epidemiology
2015	Ethnicity and Health
2015	Epidemiology and Psychiatric Sciences
2014-2015	PLOS ONE
2014-2015	American Journal of Epidemiology
2014	Journal of Youth and Adolescence
2014	BMC Public Health
2014	Environment International
2013	Journal of Epidemiology and Community Health